



## Complete Summary

---

### GUIDELINE TITLE

First trimester bleeding.

### BIBLIOGRAPHIC SOURCE(S)

Fleischer AC, Andreotti RF, Bohm-Velez M, Fishman EK, Horrow MM, Hricak H, Thurmond A, Zelop C, Expert Panel on Women's Imaging. First trimester bleeding. [online publication]. Reston (VA): American College of Radiology (ACR); 2005. 9 p. [36 references]

### GUIDELINE STATUS

This is the current release of the guideline.

It updates a previously published version: Laing F, Mendelson E, Bohm-Velez M, Bree R, Finberg H, Fishman EK, Hricak H, Sartoris D, Thurmond A, Goldstein S. First trimester bleeding. American College of Radiology. ACR Appropriateness Criteria. Radiology. 2000 Jun; 215 Suppl: 879-93.

The appropriateness criteria are reviewed annually and updated by the panels as needed, depending on introduction of new and highly significant scientific evidence.

## COMPLETE SUMMARY CONTENT

SCOPE  
METHODOLOGY - including Rating Scheme and Cost Analysis  
RECOMMENDATIONS  
EVIDENCE SUPPORTING THE RECOMMENDATIONS  
BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS  
QUALIFYING STATEMENTS  
IMPLEMENTATION OF THE GUIDELINE  
INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT  
CATEGORIES  
IDENTIFYING INFORMATION AND AVAILABILITY  
DISCLAIMER

## SCOPE

### DISEASE/CONDITION(S)

First trimester bleeding

### GUIDELINE CATEGORY

Evaluation

#### CLINICAL SPECIALTY

Obstetrics and Gynecology  
Radiology

#### INTENDED USERS

Physicians

#### GUIDELINE OBJECTIVE(S)

To evaluate the appropriateness of radiologic procedures for the evaluation of first trimester bleeding

#### TARGET POPULATION

Women with first trimester bleeding

#### INTERVENTIONS AND PRACTICES CONSIDERED

1. Ultrasound
  - Transvaginal first with or without transabdominal
  - Follow-up scans
  - Adnexa, Doppler
  - Endometrium, Doppler
  - Transvaginal only
  - Transabdominal only
  - Transabdominal first with or without transvaginal
  - Mean sac diameters--crown-rump length
  - Uteroplacental circumference, Doppler
  - Yolk sac diameter
2. Beta human chorionic gonadotropin
3. Dilation and curettage
4. Laparoscopy

#### MAJOR OUTCOMES CONSIDERED

Utility of radiologic examinations in evaluation of first trimester bleeding

### METHODOLOGY

#### METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

#### DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches of recent peer-reviewed medical journals, and the major applicable articles were identified and collected.

#### NUMBER OF SOURCE DOCUMENTS

The total number of source documents identified as the result of the literature search is not known.

#### METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Not Given)

#### RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not stated

#### METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

#### DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

One or two topic leaders within a panel assume the responsibility of developing an evidence table for each clinical condition, based on analysis of the current literature. These tables serve as a basis for developing a narrative specific to each clinical condition.

#### METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Delphi)

#### DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Since data available from existing scientific studies are usually insufficient for meta-analysis, broad-based consensus techniques are needed for reaching agreement in the formulation of the appropriateness criteria. The American College of Radiology (ACR) Appropriateness Criteria panels use a modified Delphi technique to arrive at consensus. Serial surveys are conducted by distributing questionnaires to consolidate expert opinions within each panel. These questionnaires are distributed to the participants along with the evidence table and narrative as developed by the topic leader(s). Questionnaires are completed by participants in their own professional setting without influence of the other members. Voting is conducted using a scoring system from 1-9, indicating the least to the most appropriate imaging examination or therapeutic procedure. The survey results are collected, tabulated in anonymous fashion, and redistributed after each round. A maximum of three rounds is conducted and opinions are unified to the highest degree possible. Eighty percent agreement is considered a consensus. This modified Delphi technique enables individual, unbiased expression, is economical, easy to understand, and relatively simple to conduct.

If consensus cannot be reached by the Delphi technique, the panel is convened and group consensus techniques are utilized. The strengths and weaknesses of each test or procedure are discussed and consensus reached whenever possible. If "No consensus" appears in the rating column, reasons for this decision are added to the comment sections.

#### RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

#### COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

#### METHOD OF GUIDELINE VALIDATION

Internal Peer Review

#### DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Criteria developed by the Expert Panels are reviewed by the American College of Radiology (ACR) Committee on Appropriateness.

### RECOMMENDATIONS

#### MAJOR RECOMMENDATIONS

ACR Appropriateness Criteria®

Clinical Condition: First Trimester Bleeding

Variant 1: +B HCG 5 weeks gestational age by history. No sac seen in uterus.

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, transvaginal (TV), first with or without transabdominal (TA)	8	
US, follow-up scan in 7-10 days	8	
B hCG-every 2 days	8	
US, follow-up scan in 2 or 3 days	6	

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, adnexa, Doppler	4	
US, pregnant, uterus, endometrium, Doppler	4	
US, pregnant, uterus, transvaginal (TV) only	4	
B hCG-every 7 days	4	
US, pregnant, uterus, transabdominal (TA) only	2	
US, pregnant, uterus, transabdominal (TA) first with or without TV	2	
D & C	2	
Laparoscopy	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1 = Least appropriate 9 = Most appropriate		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 2: 5 weeks gestational age. Fetal Heart Rate = 85.

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, transvaginal (TV), first with or without transabdominal (TA)	8	
US, measure MSD - CR length	8	
US, follow-up scan in 7-10 days	8	
US, pregnant, uterus, transvaginal (TV) only	6	
US, pregnant, uterus,	4	

Radiologic Exam Procedure	Appropriateness Rating	Comments
uteroplacental circumference, Doppler		
US, follow-up scan in 2 or 3 days	4	
US, pregnant, uterus transabdominal (TA) only	2	
US, pregnant, uterus, transabdominal (TA) first with or without TV	2	
B hCG-every 2 days	2	
B hCG-every 7 days	2	
D & C	2	
<p>Appropriateness Criteria Scale  1 2 3 4 5 6 7 8 9  1 = Least appropriate 9 = Most appropriate</p>		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 3: 5 weeks gestational age. Fetal Heart Rate = 110.

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, transvaginal (TV) only	8	Either TV or TA can be used.
US, pregnant, uterus, transvaginal (TV), first with or without transabdominal (TA)	8	Either TV or TA can be used.
US, measure MSD - CR length	8	
US, follow-up scan in 2nd trimester	4	
US, pregnant, uterus, transabdominal (TA) only	2	

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, transabdominal (TA) first with or without transvaginal (TV)	2	
US, pregnant, uterus, uteroplacental circumference Doppler	2	
US, follow-up scan in 7 days	2	
US, follow-up scan in 3rd trimester	2	
<p>Appropriateness Criteria Scale  1 2 3 4 5 6 7 8 9  1 = Least appropriate 9 = Most appropriate</p>		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 4: 5 weeks gestational age. Fetal Heart Rate = 110. Moderate subchorionic hemorrhage.

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, transvaginal (TV) only	8	Either TV or TA can be used.
US, pregnant, uterus, transvaginal (TV), first with or without transabdominal (TA)	8	Either TV or TA can be used.
US, measure MSD - CR length	8	
US, follow-up scan in 7 days	6	
US, follow-up scan in 2nd trimester	4	
US, follow-up scan in 3rd trimester	4	
US, pregnant, uterus, transabdominal (TA)	4	

Radiologic Exam Procedure	Appropriateness Rating	Comments
first with or without transvaginal (TV)		
US, pregnant, uterus, transabdominal (TA) only	2	
US, pregnant, uterus, uteroplacental circumference, Doppler	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1 = Least appropriate 9 = Most appropriate		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 5: + B HCG 7 weeks gestational age by history. No sac seen in uterus.

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, transvaginal (TV), first with or without transabdominal (TA)	8	
US, follow-up scan in 2 days	8	
B hCG-every 2 days	8	
US, pregnant, uterus, adnexa, Doppler	6	
US, pregnant, uterus, transvaginal (TV) only	4	
US, pregnant, uterus, transabdominal (TA) first with or without transvaginal (TV)	4	
US, pregnant, uterus, endometrium, Doppler	4	
US, follow-up scan in	4	



Radiologic Exam Procedure	Appropriateness Rating	Comments
7 days		
B hCG-every 7 days	4	
Laparoscopy	4	
US, pregnant, uterus, transabdominal (TA) only	2	
D & C	2	
<p>Appropriateness Criteria Scale  1 2 3 4 5 6 7 8 9  1 = Least appropriate 9 = Most appropriate</p>		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 6: 7 weeks gestational age. CRL = 9 mm - FHM.

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, transvaginal (TV) only	8	Either TV or TA can be used.
US, pregnant, uterus, transvaginal (TV), first with or without transabdominal (TA)	8	Either TV or TA can be used.
D & C	8	
US, pregnant, uterus, transabdominal (TA) only	2	
US, pregnant, uterus, transabdominal (TA) first with or without transvaginal (TV)	2	
US, measure MSD - CR length	2	
US, measure yolk sac diameter	2	
US, pregnant, uterus,	2	

Radiologic Exam Procedure	Appropriateness Rating	Comments
uteroplacental circ. Doppler		
US, follow-up scan in 2 days	2	
US, follow-up scan in 7 days	2	
B hCG-every 2 days	2	
B hCG-every 7 days	2	
<p>Appropriateness Criteria Scale  1 2 3 4 5 6 7 8 9  1 = Least appropriate 9 = Most appropriate</p>		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 7: 7 weeks gestational age. Fetal heart rate = 90.

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, transvaginal (TV) only	8	Either TV or TA can be used.
US, pregnant, uterus, transvaginal (TV), first with or without transabdominal (TA)	8	Either TV or TA can be used.
US, follow-up scan in 7-10 days	8	
US, measure MSD - CR length	6	
US, measure yolk sac diameter	6	
US, pregnant, uterus, uteroplacental circ. Doppler	4	
US, follow-up scan in 2 or 3 days	4	
B hCG-every 7 days	4	

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, transabdominal (TA) first with or without transvaginal (TV)	2	
US, pregnant, uterus, transabdominal (TA) only	2	
B hCG-every 2 days	2	
D & C	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1 = Least appropriate 9 = Most appropriate		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 8: 7 weeks gestational age. Fetal heart rate = 130.

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, Transvaginal (TV) only	8	Either TV or TA can be used.
US, pregnant, uterus, transabdominal (TA) first with or without transvaginal (TV)	8	Either TV or TA can be used.
US, pregnant, uterus, transvaginal (TV), first with or without transabdominal (TA)	8	Either TV or TA can be used.
US, measure MSD - CR length	6	
US, follow-up scan in 3rd trimester	4	
US, pregnant, uterus, transabdominal (TA) only	2	
US, pregnant, uterus, uteroplacental circ.	2	

Radiologic Exam Procedure	Appropriateness Rating	Comments
Doppler		
US, follow-up scan in 7 days	2	
US, follow-up scan in 2nd trimester	No Consensus	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1 = Least appropriate 9 = Most appropriate		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 9: +B HCG 9 weeks gestational age by history. No sac seen in uterus.

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, transvaginal (TV), first with or without transabdominal (TA)	8	
US, pregnant, uterus, transvaginal (TV) only	8	
US, follow-up scan in 7-10 days	8	
B hCG-every 2 days	8	
US, pregnant, uterus, adnexa, Doppler	6	
US, pregnant, uterus, transabdominal (TA) first with or without transvaginal (TV)	4	
US, pregnant, uterus, endometrium Doppler	4	
US, follow-up scan in 2-3 days	4	
B hCG-every 7 days	4	

Radiologic Exam Procedure	Appropriateness Rating	Comments
D & C	4	
Laparoscopy	4	
US, pregnant, uterus, transabdominal (TA) only	2	
<p>Appropriateness Criteria Scale  1 2 3 4 5 6 7 8 9  1 = Least appropriate 9 = Most appropriate</p>		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 10: 9 weeks gestational age. CRL = 23 mm -- FHM.

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, transvaginal (TV) only	8	Either TV or TA can be used.
US, pregnant, uterus, transvaginal (TV), first with or without transabdominal (TA)	8	Either TV or TA can be used.
D & C	8	
US, pregnant, uterus, transabdominal (TA) only	2	
US, pregnant, uterus, transabdominal (TA) first with or without transvaginal (TV)	2	
US, measure MSD - CR length	2	
US, measure yolk sac diameter	2	
US, pregnant, uterus, uteroplacental circ. Doppler	2	
US, follow-up scan in	2	

Radiologic Exam Procedure	Appropriateness Rating	Comments
2 days		
US, follow-up scan in 7 days	2	
B hCG-every 2 days	2	
B hCG-every 7 days	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1 = Least appropriate 9 = Most appropriate		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 11: 9 weeks gestational. Fetal heart rate = 90.

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, transvaginal (TV) only	8	Either TV or TA can be used.
US, pregnant, uterus, transvaginal (TV), first with or without transabdominal (TA)	8	Either TV or TA can be used.
US, pregnant, uterus, transabdominal (TA) first with or without transvaginal (TV)	8	Either TV or TA can be used.
US, measure MSD - CR length	8	
US, measure yolk sac diameter	8	
US, follow-up scan in 7-10 days	8	
US, follow-up scan in 2 or 3 days	6	
US, pregnant, uterus, uteroplacental circ. Doppler	4	

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, transabdominal (TA) only	2	
B hCG-every 2 days	2	
B hCG-every 7 days	2	
D & C	2	
<p>Appropriateness Criteria Scale  1 2 3 4 5 6 7 8 9  1 = Least appropriate 9 = Most appropriate</p>		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 12: 9 weeks gestational. Fetal heart rate = 130.

Radiologic Exam Procedure	Appropriateness Rating	Comments
US, pregnant, uterus, transvaginal (TV) only	8	Either TV or TA can be used.
US, pregnant, uterus, transabdominal (TA) first with or without transvaginal (TV)	8	Either TV or TA can be used.
US, pregnant, uterus, transabdominal (TA) only	6	
US, follow-up scan in 2nd trimester	5	
US, pregnant, uterus, transvaginal (TV), first with or without transabdominal (TA)	4	
US, follow-up scan in 3rd trimester	4	
US, measure MSD - CR length	2	
US, pregnant, uterus, uteroplacental circ.	2	

Radiologic Exam Procedure	Appropriateness Rating	Comments
Doppler		
US, follow-up scan in 7 days	2	
<p>Appropriateness Criteria Scale</p> <p>1 2 3 4 5 6 7 8 9</p> <p>1 = Least appropriate 9 = Most appropriate</p>		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

First trimester vaginal bleeding is very common, occurring in approximately 25% of patients who are known to be pregnant. In many patients the bleeding is self-limited and is probably due to implantation of the conceptus into the decidualized endometrium.

If the bleeding is not self-limited and is accompanied by severe pain, uterine contractions, and a dilated cervix, the clinical changes are irreversible and the pregnancy is doomed to failure. Because these clinical changes are irreversible, ultrasound has little to offer.

If bleeding and cramping are relatively mild and the cervix is long and closed, the diagnosis is threatened abortion. Analysis of this group reveals that 50% have an abnormal outcome, with the differential diagnosis encompassing a broad spectrum of conditions including a normal intrauterine pregnancy (IUP) (50% of patients), an abnormal living intrauterine pregnancy, a missed abortion, a blighted ovum, retained products of conception, ectopic pregnancy, and gestational trophoblastic disease. Ultrasound examination is especially important in these patients, because the findings may be pivotal not only for determining the precise cause of the bleeding but also for suggesting appropriate therapy.

In comparison to abdominal imaging, the literature emphasizes that in patients with threatened abortion, vaginal sonography is more effective not only for making the specific diagnosis of ectopic pregnancy but also for clarifying indeterminate findings noted on transabdominal scans. In general, if the gestational age is less than 8 or 9 weeks, the sonographic examination should begin using a vaginal approach. If the study is incomplete or inconclusive, an abdominal approach may offer complementary information. A transabdominal approach is often satisfactory in the late first trimester of 9 weeks or more. Nonetheless, in difficult, abnormal, or inconclusive cases, a vaginal examination should also be done in an effort to clarify the findings.

When evaluating a patient with threatened abortion, it is most important to determine if an intrauterine gestational sac is visible and whether or not it has a normal appearance. Using transabdominal ultrasound, an intrauterine sac should normally be visible when the beta hCG is >1800 mIU/mL (2nd International Standard [IS]) or >3240 mIU/mL (International Reference Preparation [IRP]), and



a yolk sac and embryo should be detected when MSDs are 20 and 25 mm, respectively. Using a vaginal transducer, the discriminatory beta hCG level for sac detection is 1000 mIU/mL (2nd IS) or 1800 mIU/mL (IRP); and a yolk sac and embryo should be detected when their MSDs are 8 and 16 mm, respectively. In questionably abnormal cases, a follow-up ultrasound should be considered. Knowing that the MSD normally increases by 1 mm/day allows the sonologist to recommend an appropriate time interval between the initial and follow-up examination(s). Although not universally accepted, many sonologists also recommend a second trimester sonographic examination to screen for abnormalities that were unsuspected during the first trimester.

Once an embryo is detected, cardiac activity is normally visible by transabdominal imaging when the CRL is 9 mm; the corresponding CRL on a vaginal scan is 4-5 mm. Despite cardiac activity, sonography may reveal findings that suggest a poor outcome; these include bradycardia (abnormal at <6.2 weeks is <100 beats per minute (BPM); abnormal between 6.3-7 weeks is <120 BPM, an oligohydramniotic sac (abnormal = MSD - CRL <5 mm), or an abnormal appearing yolk sac (diameter >5 mm), and/or amnion (abnormally large amniotic cavity, or an "empty" amniotic cavity). Whether or not a subchorionic hemorrhage is associated with an abnormal outcome (either at the time of initial bleeding), or perinatally, is unclear. However, one study showed a correlation of size of subchorionic hemorrhage, age of patient, and time of bleeding with the likelihood of spontaneous abortion. Women who were over 35 years of age and had large bleeds before 8 weeks were most likely to spontaneously abort.

Ectopic pregnancy must be considered if a gestational sac is absent when the beta hCG level exceeds the discriminatory level for detecting a sac (especially if significant vaginal bleeding has not occurred), or historically, by 4 to 5 weeks gestational age. At least one investigator concludes that in patients with suspected ectopic pregnancy, vaginal sonography can and should be used alone for these examinations.

The role of Doppler ultrasound for evaluating patients with first trimester bleeding remains unclear. In the experience of some investigators, measuring the Resistive Index (RI) to evaluate uteroplacental blood flow has proven effective for differentiating normal from abnormal intrauterine pregnancies; the findings of other investigators, however, have not been similar. Color and pulsed Doppler have also been advocated by some investigators to improve the sensitivity for diagnosing ectopic pregnancy; this too, is not universally accepted. Some clinical and sonographic predictors of ectopic pregnancy outcome include longer times from last menstrual period (LMP), lower beta hCG, absence of gestational sac, and higher resistive indexes. In women with possible gestational trophoblastic disease, Doppler of trophoblastic tissue reveals a low impedance, high-flow state that differs from the lower-flow, higher impedance pattern seen in women with nonviable gestations or degenerating fibroids. Doppler may prove to be especially useful to evaluate myometrial invasion and during follow-up examinations for women receiving chemotherapy.

#### Abbreviations

- BhCG, beta human chorionic gonadotropin
- CR, crown-rump

- CRL, crown-rump length
- D & C, dilation and curettage
- FHM, fetal heart movement
- MSD, mean sac diameters
- TA, transabdominal
- TV, transvaginal
- US, ultrasound

#### CLINICAL ALGORITHM(S)

Algorithms were not developed from criteria guidelines.

### EVIDENCE SUPPORTING THE RECOMMENDATIONS

#### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The recommendations are based on analysis of the current literature and expert panel consensus.

### BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

#### POTENTIAL BENEFITS

Selection of appropriate radiologic imaging procedures for the evaluation of first trimester bleeding

#### POTENTIAL HARMS

Not stated

### QUALIFYING STATEMENTS

#### QUALIFYING STATEMENTS

An American College of Radiology (ACR) Committee on Appropriateness Criteria and its expert panels have developed criteria for determining appropriate imaging examinations for diagnosis and treatment of specified medical condition(s). These criteria are intended to guide radiologists, radiation oncologists, and referring physicians in making decisions regarding radiologic imaging and treatment. Generally, the complexity and severity of a patient's clinical condition should dictate the selection of appropriate imaging procedures or treatments. Only those exams generally used for evaluation of the patient's condition are ranked. Other imaging studies necessary to evaluate other co-existent diseases or other medical consequences of this condition are not considered in this document. The availability of equipment or personnel may influence the selection of appropriate imaging procedures or treatments. Imaging techniques classified as investigational by the U.S. Food and Drug Administration (FDA) have not been considered in developing these criteria; however, study of new equipment and applications should be encouraged. The ultimate decision regarding the appropriateness of any specific radiologic examination or treatment must be made

by the referring physician and radiologist in light of all the circumstances presented in an individual examination.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

### IMPLEMENTATION TOOLS

Personal Digital Assistant (PDA) Downloads

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Getting Better

### IOM DOMAIN

Effectiveness

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

Fleischer AC, Andreotti RF, Bohm-Velez M, Fishman EK, Horrow MM, Hricak H, Thurmond A, Zelop C, Expert Panel on Women's Imaging. First trimester bleeding. [online publication]. Reston (VA): American College of Radiology (ACR); 2005. 9 p. [36 references]

### ADAPTATION

Not applicable: The guideline was not adapted from another source.

### DATE RELEASED

1996 (revised 2005)

### GUIDELINE DEVELOPER(S)

American College of Radiology - Medical Specialty Society

### SOURCE(S) OF FUNDING

The American College of Radiology (ACR) provided the funding and the resources for these ACR Appropriateness Criteria®.

#### GUIDELINE COMMITTEE

Committee on Appropriateness Criteria, Expert Panel on Women's Imaging

#### COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Panel Members: Arthur C. Fleischer, MD (Principal Author and Panel Chair); Rochelle F. Andreotti, MD; Marcela Böhm-Vélez, MD; Elliot K. Fishman, MD; Mindy M. Horrow, MD; Hedvig Hricak, MD, PhD; Amy Thurmond, MD; Carolyn Zelop, MD

#### FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

#### GUIDELINE STATUS

This is the current release of the guideline.

It updates a previously published version: Laing F, Mendelson E, Bohm-Velez M, Bree R, Finberg H, Fishman EK, Hricak H, Sartoris D, Thurmond A, Goldstein S. First trimester bleeding. American College of Radiology. ACR Appropriateness Criteria. Radiology. 2000 Jun; 215 Suppl:879-93.

The appropriateness criteria are reviewed annually and updated by the panels as needed, depending on introduction of new and highly significant scientific evidence.

#### GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the [American College of Radiology \(ACR\) Web site](#).

ACR Appropriateness Criteria® Anytime, Anywhere™ (PDA application). Available from the [ACR Web site](#).

Print copies: Available from the American College of Radiology, 1891 Preston White Drive, Reston, VA 20191. Telephone: (703) 648-8900.

#### AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- ACR Appropriateness Criteria®. Background and development. Reston (VA): American College of Radiology; 2 p. Electronic copies: Available in Portable Document Format (PDF) from the [American College of Radiology \(ACR\) Web site](#).

## PATIENT RESOURCES

None available

## NGC STATUS

This NGC summary was completed by ECRI on February 10, 2006.

## COPYRIGHT STATEMENT

Instructions for downloading, use, and reproduction of the American College of Radiology (ACR) Appropriateness Criteria® may be found on the [ACR Web site](#).

## DISCLAIMER

### NGC DISCLAIMER

The National Guideline Clearinghouse™ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at <http://www.guideline.gov/about/inclusion.aspx>.

NGC, AHRQ, and its contractor ECRI make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.

© 1998-2006 National Guideline Clearinghouse

Date Modified: 10/9/2006

